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METHOD FOR INTRAOPERATIVE ULTRASOUND-GUIDED TRANSHEPATIC BILIARY DRAINAGE WITH BILIO-DIGESTIVE ANASTOMOSIS IN MALIGNANT EXTRAHEPATIC TRACT OBSTRUCTION

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Malignant obstruction of extrahepatic biliary tract is a severe surgical problem. Introduction of intraoperative echography enhances the opportunities for a precise evaluation of the patterns of the obstruction and for operative method selection. The method for intraoperative ultrasound-guided transhepatic biliary drainage with biliodigestive anastomosis is demonstrated in a 77-year old male patient with gallblader carcinoma. The technique is accompanied by a minimal trauma of the hepatic parenchyma. It is very precise, short-time consuming and ensures a reliable drainage and decompression of the biliary tree by a physiological manner. The method is indicated in the insurmountable retrograde-proximal obstructions of the hepatico-choledochus duct.

Key-words: Intraoperative biliary drainage, intraoperative echography, biliodigestive anastomosis, extrahepatic obstruction, gallbladder cancer

Malignant obstruction of extrahepatic biliary tract represents a serious surgical problem. Most patients present with non-resectable neoplasms and require palliative treatment consisting in the performance of biliary drainage (9). Very often, the surgeon is unable to preoperatively assess the degree of resectability at all. In case of a preoperatively proved non-resectable mechanical obstruction the endoscopic endoprostheis remains the means of choice if the stenosis can be overcome, or one can perform a percutaneous biliary drainage accompanied by bile loss and its elimination from the digestion process (2-4,8).

When the presence of a non-resectable lesion is intraoperatively found out, a tumour tunnelization with prosthesis can be accomplished as well as the classic techniques after Saypol and Kurian (6) and Pradery (5) with their modifications, or the biliodigestive anastomosis with an intrahepatic biliary duct (1).

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Introduction of intraoperative echography into the surgical practice enhances the opportunities for a precise evcaluation of the extent and level of the obstruction as well as for a choice of the operative method.

The purpose of the present communication is to demonstrate the method for intraoperative ultrasound-guided transhepatic biliary drainage with biliodigestive anastomosis in a patient with malignant proximal obstruction of the extrahepatic biliary tract.

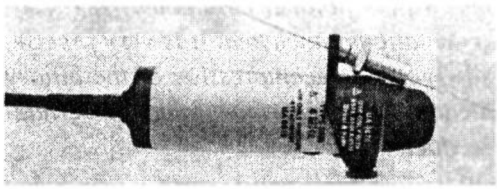

Fig. 1. Intraoperative sector transducer 8536

MATERIAL AND METHODS

In a 77-year old male patient (Record No 6353) presenting with mechanical jaundice because of a gallblader carcinoma a large tumour mass was intraoperatively established. It involved not only the gallbladder but also the whole *ductus choledochus* and expanded into the hilus of the liver. A transtumour drainage was impossible. That was why an intrahepatic biliary canal was differentiated using a Bruel & Kjaer Type 1846 ultrasonic scanner with sector transducer 8536 with a frequency of 4 MHz (Fig. 1). A polyethylene endoprosthesis of double pig tail type, 8,5 FR, 10 cm was introduced under echographic control into this canal (Fig. 2). After extirpation of the trocar needle the bile began to flow out

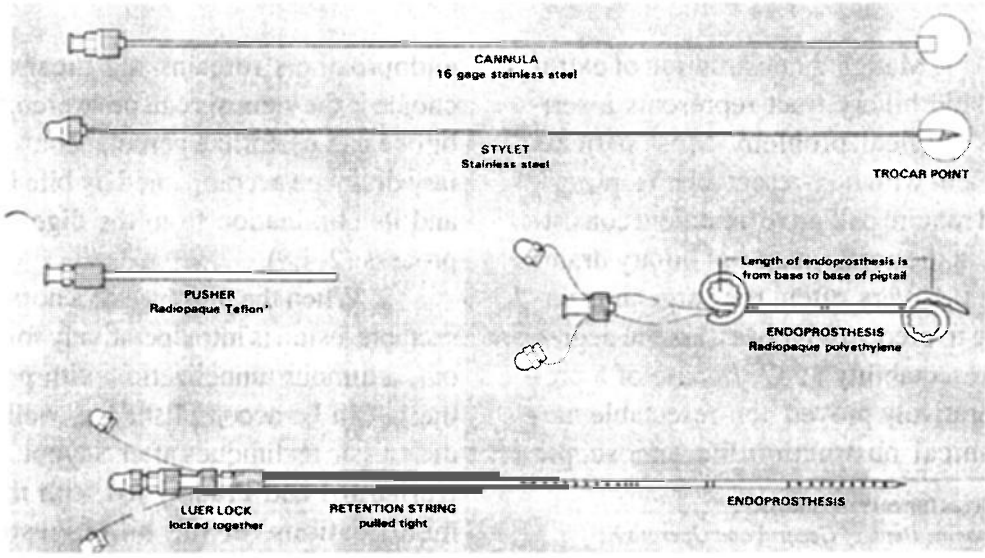

Fig. 2. Polyethylene endoprosthesis of double pig tail type, 8,5 FT, 10 cm

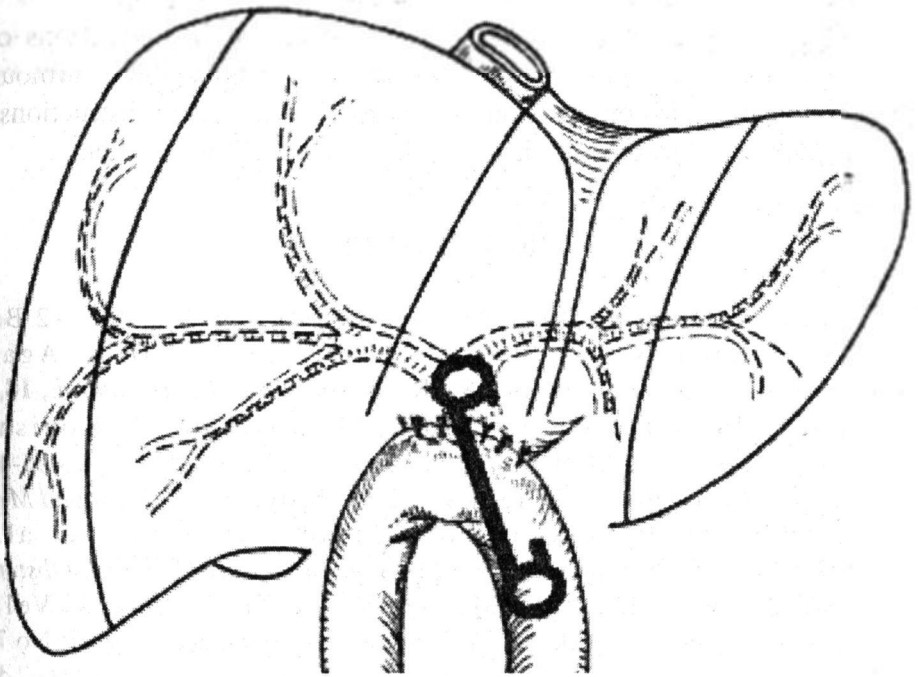

Fig. 3. Schematic presentation of the method

under pressure. The other end of the stent was implanted into jejunal loop isolated by Brown's anastomosis. The intestinal wall was firmly fixed by means of tissue glue and 3 situation sutures towards the hepatic surface in the region of the anastomosis. The duration of the procedure of stent placement was of 15 min. The schematic presentation of the method was illustrated on Fig. 3. The operation terminated with the placement of a contact drainage which was removed on the third postoperative day because of the absent secretion and normalized blood bilirubin values. No complications such as haemobilia, bile flowing-out from the anastomosis and inflammatory reactions could be observed. The patient was discharged from hospital on the 14th day after the operation.

RESULTS AND DISCUSSION

This method represents a further development of the intraoperative applications of ultrasound in the management of hepatic and gallbladder neoplasms (7,10).

The good results obtained with the application of this method in our patient indicate some essential advantages that require a special emphasis.

This method is accompanied by a minimal trauma of the liver parenchyma. It is very precise as a technique

and practical realization. It is a rather short-lasting intervention.

Besides this technique ensures a reliable drainage and decompression of the biliary tree by a physiological manner.

The main indications of this method consist in the insurmountable retrograde-proximal obstructions of the hepatico-choledochus duct.

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Метод за интраоперативен ултразвуково насочван трансхепатален билиарен дренаж с билеодигестивна анастомоза при злокачествена обстркция на екстрахепаталните жлъчни пътища

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Резюме: Злокачествената обструкция на екстрахепаталните жлъчни пътища е тежъ хирургически проблем. Въвеждането на интраоперативната ехография повишав възможностите за точна оценка на характеристиките на обструкцията и за избора н оперативния метод. Методът за интраоперативен ултразвуково насочва трансхепатален билиарен дренаж с билеодигестивна анастомоза е демонстриран пр един 77-годишен болен с карцином на жлъчния мехур. Техниката е съпроводена минимално травмиране на чернодробния паренхим. Тя е много прецизна, изиск

малко време и осигурява надежден дренаж и декомпресия на билиарното дърво по един физиологичен начин. Методът е показан при непреодолими ретроградно-проксимални обструкции на хепатико-холедоха.